DBI / DDI

Weighing indicator
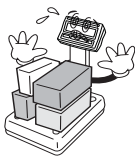
CAS

CONTENTS

PRECAUTIONS

⚠ Warning

Precautions when installing the scale. To ensure that you get the most from your scale, please follow these instruction.

Do not disassemble the scale.

When any damage or defect occurs, contact your CAS authorized dealer immediately for proper repair.

Do not overload beyond the maximum weight limit.

Scale must be grounded to minimize electricity static.

This will minimize defect or electric shock.

Do not pull the plug by its cord when unplugging.

Damaged cord could cause electric shock or fire.

To prevent from fire occurring, Do not place or use the scale near flammable or corrosive gas.

To reduce electric shock or incorrect reading, Do not spill water on the scale or place it in humid condition.
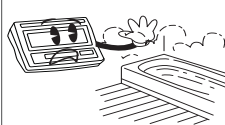
Avoid placing the scale near heater or in direct sunlight.
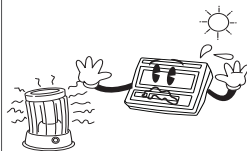
Insert plug firmly to wall outlet to prevent electric shock.
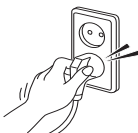
Use proper Adapter.

Incorrect adapter could damage the scale.

Do not step up on the scale with wet feet. Platter becomes slippery. Humid condition may cause incorrect reading.

⚠ Attention

Make sure to plug your scal into the proper power outlet. For maximum performance, plug into a power outlet 30 minutes before the usage for warm up.

| **For consistent and accurate reading, maintain periodical check by your CAS authorized dealer.** | **Avoid sudden shock to the scale.** | **Grab on the bottom of the scale when moving.** |

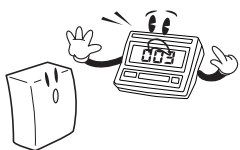| **Keep the scale away from other electromagnetic enerating devices.** | **Place the scale on firm and temperature consistent environment.** | **Take the battery out when scale is not in use for long time. Leakage from the batteries is hazardous.** |

This may interfere with accurate reading.

PREFACE

Thank you for the purchasing of CAS DBI(LCD) / DDI Indicator.
This series have been designed with CAS reliability, under rigid quality control and with outstanding performance. Your specialty departments can enjoy with CAS products.
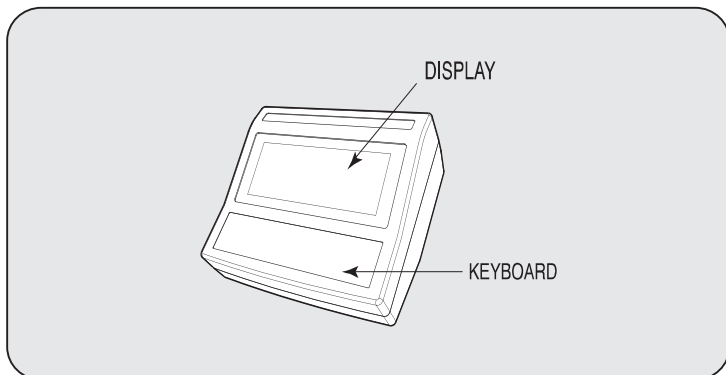We hope that CAS product meets your needs.
The user manual is designed to guide you to understand product operation and proper care of product.

NAMES AND FUNCTIONS

OVERALL VIEW

■ DBI(LCD/LED)

■ DDI
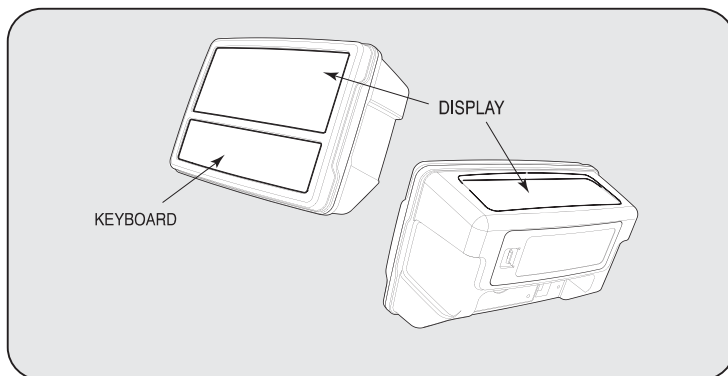
DBI (LED = **FOR DBI (LED) Version.**
DBI (LCD) / DDI = **FOR DBI (LCD) & DDI Version.**

INSTALLATION & CONNECTION
Load cell connection

Connect load cell connector to load cell port which is in the backside of the indicator.
* Connecting method
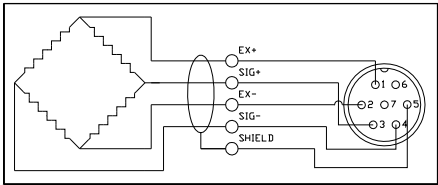
IN	COLOR
1 (EXC+)	RED
2 (EXC-)	WHITE
3 (SIG+)	GREEN
4 (SIG-)	BLUE
5 (SHIELD)	SHIELD

Note. Wire color can be different depending on the
loadcell's manufacturer or it's model.

* Load cell output to Resolution

5V impression to loadcell Max. load cell output	Recommended resolution
4 mV	1/4,000
8 mV	1/8,000
10 mV	1/10,000

CALIBRATION

General Calibration

Pressing and holding calibration switch press [POWER] key to go to calibration mode.
User can move to other mode by using [HOLD],[PRINT] key in the calibration mode.
Please simply follow below procedure to move to other mode.

User also moves to other sub-modes for each mode by using [TARE] key. _* DBI (LED)
● Calibration Mode: Pressing and holding "Calibration Switch" press [POWER] key.
● It displays "CAL 1" after "onE".
● Selecting menu: press [HOLD],[PRINT]
● ENTER(Setting) : [SAMPLE] key

MODE	Function
CAL 1	Display normalized AD
CAL 2	Display Keypad infomation-
CAL 3	[SAMPLE] → "Zero" → Weight Setting Mode (Zero Weight) [SAMPLE] → "MID" → [SAMPLE] after loading for 1/3 weight → [SAMPLE] → "FULL" → [SAMPLE] after loading for Full weight → [SAMPLE] → "MID" → [SAMPLE] after loading for 1/3 weight → "END"
CAL 4	Option Setting (Table 1)
CAL 5	Display filtered Raw AD
CAL 6	N/A
CAL 7	% Calibration
CAL 8	Battery calibration
CAL 9	Gravity constant
CAL 10	Set calibration factor "Unit" → [SAMPLE] → select 0, 1 (0:kg, 1: lb) → [SAMPLE] "CAPA" → [SAMPLE] → select capacity → [SAMPLE] "MID" → [SAMPLE] → select mid-capacity → [SAMPLE] "W-dP" → [SAMPLE] → Select Decimal Point → [SAMPLE] " 1 d " → [SAMPLE] → Select division → [SAMPLE] "Dual" → [SAMPLE] → Enable dual interval (0:disable, 1:enable) "tare" → [SAMPLE] → Enable custom tare (0:disable, 1:enable) → [TARE]
CAL 11	Set nation(99: Default)

< Modes >

C4 Setting

When you entered CAL-4, the scale will display 8 Bits Hexadecimal value in the "Total Price Display panel. For example, $B0_{(16)}$ presents $10110000_{(2)}$. In C41 setting, it sets (+/-)10% zero range, last digit invalid enable, (+/-)2% key zero percent, proper successive tare type, gross zero indication. Please refer to below table.

Bit	7(MSB)	6	5	4	3	2	1	0(LSB)
Value	1	0	1	1	0	0	0	0

C4-1 Setting (AD)

Bit	Set (1)	Clear (0)	Remark
7, 6	Initial Zero Range		00 : ±2%
			01 : ±3%
			10 : ±10%
			11 : ±5%
5	Last Digit Invalid Enable	Last Digit Invalid Disable	Same as 4-4 3rd bit
4	±2% Key zero percent	±3% Key zero percent	For Sri Lanka
3, 2	Successive Tare Type		00 : Proper
			01 : Positive Direction
			10 : Negative Direction
			11 : All Direction
1, 0	Zero mark type		00 : Gross zero indication
			01 : Net zero indication
			10 : Both zero indication

C4-3 Setting (Sale) _ * DBI (LCD) / DDI

Bit	Set (1)	Clear (0)	Remark
7	Dot type Comma	Dot type Dot	
6	Use Preset Tare	Don't Use Preset Tare	
5	Use Backlight	Don't Use Backlight	
4	Use Head Message	Don't Use Head Message	
3	Use Gram Unit	Don't Use Gram Unit	
2	Use Ounce Unit	Don't Use Ounce Unit	
1	Use Pound Unit	Don't Use Pound Unit	
0	Use Kilo Gram Unit	Don't Use Kilo Gram Unit	

* Even if C4-3 is set to 5F the unit change will not able to use because of Max capa setting
   And you must choose only two weight unit.

SPAN Calibration Setting (C-3)

(1)Pressing and holding "Calibration Switch" press [POWER] key.

It displays "CAL 1" message.

(2)Press [𝐇] to display "CAL-3".

(3)Press [⑤] key and then it displays "zero" message.

(4)Press [⑤] key and then it displays "midup" message

- Load middle weight (ex:"C-10" "MID" set Weight) on the platform

- Press [⑤] key and then it displays "span" message

- Load full weight on the platform

- Press [⑤] key and then it displays "middn" message

- Load middle weight (ex:"C-10" "MID" set Weight) on the platform

- Press [⑤] key and then it display "CAL 3" message

- Weight Calibration is normally finished.

- Press [⏻] key two times and then you can go to Weight mode.

Gravity Constant Value Setting (C-9)

Current gravitational Acceleration value is set to 9.7994 m/s^2.

(1)Pressing and holding "Calibration Switch" press [POWER] key.
It displays "CAL-1" message.

(2) Press [🗐] to display "C-9".

(3) Press [⑤] key, and then " G-1" message and "9.7994" will be shown. The first digit,"9" will blink.

(4)Input a gravitational acceleration value by using [𝐇 🗐 ⚏]   key.

(5)Press [⑤] key, and then "G-2" message blinks. "9.7994" will be shown. The first digit,"9" will blink.

(6) Input a gravitational acceleration value by using [𝐇 🗐 ⚏] key.

(7) Press [⑤] key to save the gravitational acceleration value, and "C-9" message will be shown.

.

Calibration factor Setting (C-10)

(1)Pressing and holding "Calibration Switch" press [🔘 POWER] key.

(2)It displays "CAL-1" message.

(3)Press [📋] to display "C-10".

(4)Press [⑨] key, and then "UNIT" message and "0" will be shown. The first digit,"0"

will blink. It means calibration unit is "kg" (0 : kg, 1 : lb)

(5)Input a calibration unit by using [🔲 📋] key.

(6)Press [⑨] key, and then "CAPA" message blinks. "0015" will be shown. The first digit,"0"

will blink. It means a full-capability is "15 (calibration unit, kg or lb)"

(7)Input a capability by using [🔲 📋 ⚏] key.

(8)Press [⑨] key, and then "MCAPA" message blinks. "0005" will be shown. The first digit,"0"

will blink. It means a mid-capability is "05 (calibration unit, kg or lb)"

(9)Input a capability by using [🔲 📋 ⚏] key.

(10)Press [⑨] key, and then "W-0⌁" message blinks. "3" will be shown. The first digit, "3" will

blink. It means a weight decimal point is "3 (will display 0.000)"

(11)Input a weight decimal point by using [🔲 📋] key.

(12) Press [⑨] key, and then "1d ""message blinks. "0.005" will be shown. The third digit,"0"

will blink. It means a division is "0.005 (calibration unit, kg or lb)"

(13) Input a division by using [🔲 📋 ⚏] key.

(14) Press [⑨] key, and then "dual" message blinks. "1" will be shown. The third digit, "1" will

blink. It means a dual interval is disable. "(0 : disable, 1 : enable)"

(15) Input a dual interval enable by using [🔲 📋] key.

(16) Press [⑨] key, and then "tare" message and "0" will be shown. You can enable or disable

custom tare (0:disable, 1:enable)

(17) Press [⑨] key to save the calibration factor, and "C-10" message will be shown.

Displaying Real A/D Value (C-5)
Display Raw AD

Percent Calibration (C-7)

(1) Pressing and holding "Calibration Switch" press [POWER] key.
    It displays "CAL 1" message.

(2) Press [▯] to display "CAL-7".

(3) Press [⑤] key and then it displays "Per 10" message. Select the percent value using the

[𝗛 ▯ ⣶] key. You can choose 10, 20, 30, 40, 50, 60, 70, 80, 90 percent.

(4) Press [⑤] key and then it displays "zero" message

(5) Press [⑤] key and then it displays "pspan" message

(6) Load choice percentage weight of full weight on the platform

(7) Press [⑤] key and then it displays "CAL 7" message

(8) Press [⏻] key two times and then you can go to Weight mode.
POWER

Battery Calibration (C-8)
  − **Engineer MODE**

Calibration factor Setting (C-10)
MAXIMUM CAPACITY SETTING TABLE

kg	lb	oz	gram
1	2	X	1000
2	5	80	2000
3	6	X	3000
5	10	160	5000
6	15	X	6000
10	20	400	10000
12	25	X	12000

15	30	X	15000
20	50	800	20000
25	50	X	25000
30	60	1000	30000
50	100	X	50000
60	150	X	60000
100	200	X	X
150	300	X	X
200	500	X	X
300	600	X	X
500	1000	X	X
600	1500	X	X
1000	2000	X	X
2000	5000	X	X
3000	6000	X	X
5000	10000	X	X
10000	20000	X	X
15000	30000	X	X
20000	50000	X	X
30000	60000	X	X
50000	X	X	X
60000	X	X	X

OPERATIONS
DISPLAY AND KEYBOARD

■ DBI(LED)
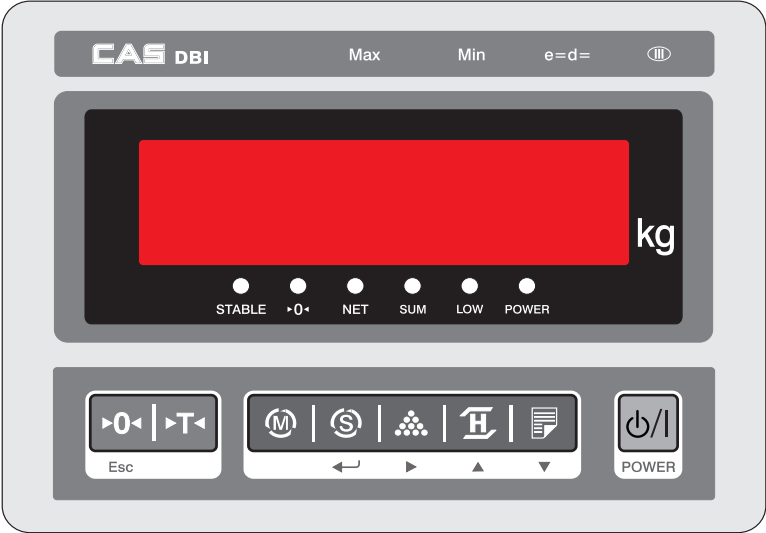
STATE SIGNAL (DBI LED) _* DBI (LED)

STATE	DESCRIPTIONS
STABLE	Weight measurement state is stable.
▶●◀	Current weight is "0" kg
NET	ON(net weight), OFF(gross weight)
SUM	Summation of the Each Weight
LOW	Battery Low Signal
POWER	ADAPTER Power ON Signal

■ DBI(LCD)
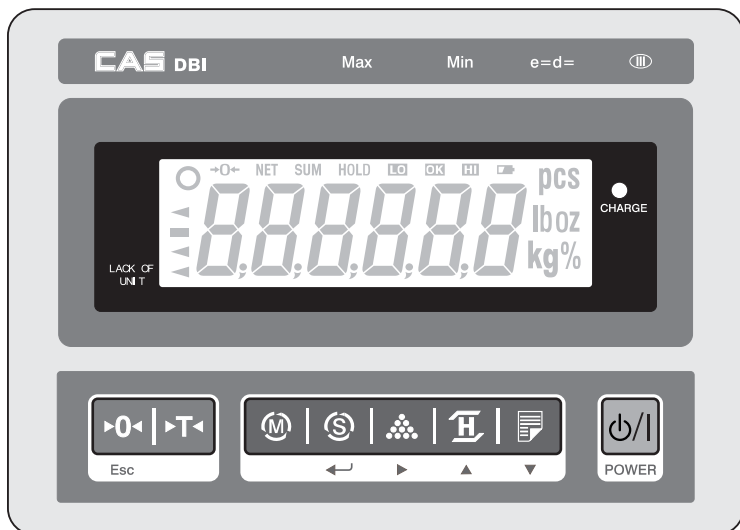
■ DDI

KEY FUNCTIONS

KEYS	DESCRIPTIONS
·0· Esc	Used to set the zero point to 0.00. Used as an ESC key in Setup Mode.
·T·	Used to enter a tare weight and used to cancel a tare weight.
M	Used to convert the mode as below. [kg] → [pcs] → [%]→ [WEIGHT LIMIT ON/OFF] → [COUNT LIMIT ON/OFF] → [kg]
S	Used as an ENTER key.
▲▶	Used to calculate a unit weight of a sample.. [▶] Used to enter next digit.
H ▲	Used to display average weight. [▲　] Used to have number up.
📄 ▼	PRINT key. [▼] Used to have number down.
⏻	Used to turn ON or OFF the power.

1. General Weighing

■ The display indicates if the scale is at zero or if there is a tare entered into the scale by way of a ZERO and NET.

○ →0←	○	○
0.00 kg	0.01 kg	13.08 kg
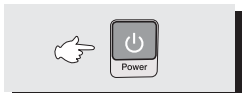
① Turn on the power. The display shows 0.00. Make sure that STABLE and ZERO lamps are on.

② When the display is not zero though there is nothing on the platter, press the ZERO key.
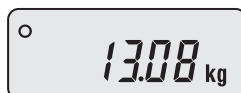
③ Place an item on the platter. When the STABLE lamp is on, read the weight.

2. Weighing with Tare

■ Tare is the weight of container being used for a commodity. The TARE key subtracts the weight of the container.

○	○ →0← NET	○ NET
0.50 kg	0.00 kg	12.05 kg
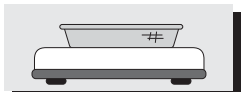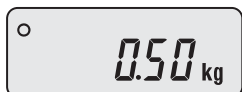
① Place the container on the platter.
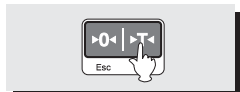
② Press the TARE key, NET lamp is on.
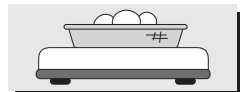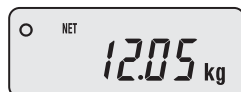
③ Place an item in the container.

○ →0←
0.00 kg
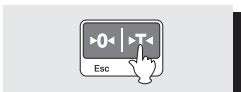
④ To release the TARE function, remove an item and container from the platter and press the TARE key.

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3. Counting Mode _★ DBI (LCD) / DDI

■ If you want to count parts, first you have to set sample size.

`PCSSEt`

OR

○ →0←   `0` ^{pcs}

`10`
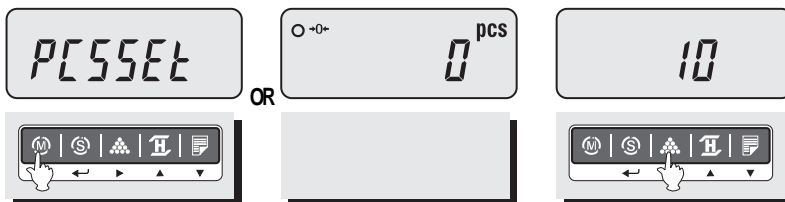
① Press the MODE key until the display shows "PCSSET". Make sure that PCS lamp is on. If you have set sample size before, the display shows "0".

② Press the SAMPLE key, then the display shows "10".

`10`

③ If you want to increase sample size, press the SAMPLE key. The display shows 10, 20, 30, 40, 50, 100, 150 and 200 every time pressing the SAMPLE key.

○   `10` ^{pcs}
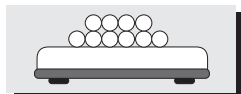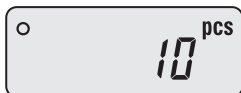
④ If you set sample size to 10, place 10 samples on the platter.

⑤ Press the SET key. The display shows unit weight and then shows the number of samples. If the display shows "LACK", the counting result may not correct. (LCD version : Lack of Unit lamp is On) If the display shows " **Low** ", it is impossible to count samples because the unit weight is too small. (Refer to Table 1)

(Example)

Max Capacity	6kg	15kg	30kg	60kg	150kg	300kg
Range of Lack (Single)	2g ≥Lack ≥0.1g	5g ≥Lack ≥ 0.1g	10g≥Lack ≥0.1g	20g ≥Lack ≥ 1g	50g ≥Lack ≥1g	100g ≥Lack≥1g
Range of Lack (Dual)	1g ≥Lack ≥0.1g	2g ≥Lack ≥ 0.1g	5g ≥Lack≥ 0.1g	10g ≥Lack ≥1g	20g ≥Lack ≥1g	50g ≥Lack ≥1g
Range of Low	0.1g ≥Low	0.1g ≥ Low	0.1g≥ Low	1g ≥Low	1g ≥Low	1g ≥Low

< Table 1 >

```
 ○              pcs
         50
```
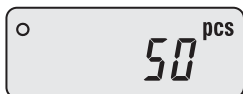
⑥ Place parts on the platter, then the display shows the number of parts. You can also use tare function in counting mode.

4. Percent Weighing Mode _* DBI (LCD) / DDI

■ The weight is displayed as a percentage of the reference.

```
    PErSEt
```

OR

```
 ○ →0←            0.0  %
```

```
 ○ →0← NET        0.0  %
```
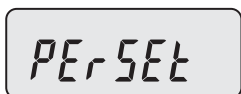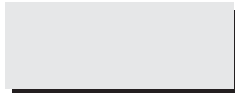
① Press the MODE key until the display shows "PErSEt". If you have set reference sample before, the display shows "0.0".

② If you want to use container, place it and press the TARE key.

```
 ○
        100.0  %
```

③ Place reference sample on the platter and press the SAMPLE key.
The display shows "100.0".
Make sure that reference sample should be bigger than 3% of maximum capacity. If it is lower than 3% of maximum capacity, the display shows "Low". In this case, increase the weight of reference sample and press the SAMPLE key.

```
 ○
        125.0  %
```

④ Place an item on the platter, then the weight is displayed as a percentage of the reference.

5. Hold Function(Weight Mode ONLY) _* DBI (LCD) / DDI

① Place an item on the platter and then press the HOLD key.

$$Hold$$

$$\overset{\text{HOLD}}{12.05}_{\text{kg}}$$
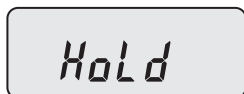
① "HOLD" is shown on the display.

② Average weight is shown on the display.

■ To release HOLD function, press the HOLD key or remove the item from the platter.

6. Cumulative Weight Sum

The function of cumulative weight sum is to be showing the aggregate times and weight as adding the value of weighing a several times. Even though power is off, the scale stores data. This function is only available in weighing mode.

$$2.05_{\text{kg}}$$

$$Sum$$

① Place an item on the platter.
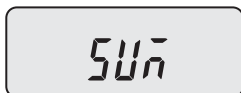
② To add this weight, press the SAMPLE key. Make sure that SUM lamp is on.

$$\overset{\text{SUM}}{3}$$

$$\overset{\text{SUM}}{13.07}_{\text{kg}}$$

③ The display shows cumulative weight sum and aggregate times every time pressing the SET key. The SUM key is flashed.
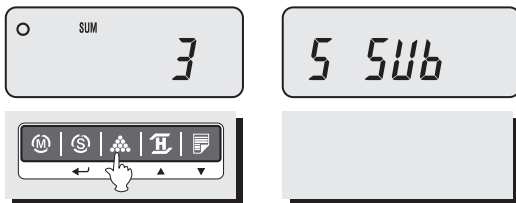
④ To cancel last added weight, press the SET key to display cumulative weight sum or aggregate times and then press the SAMPLE key. The display shows "S SUB".

⑤ You can delete cumulative weight sum or aggregate times. Press the SET key to display cumulative weight sum or aggregate times and then press the ZERO(ESC key).

⑥ To print out cumulative weight sum, press the SET key to display cumulative weight sum or aggregate times and then press the PRINT key.

7. Weight Comparison Function(HI/OK/LOW) _* DBI (LCD) / DDI

7-1. How to compare weight

$$\bar{u}L\ oFF$$
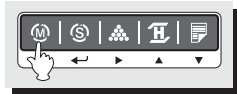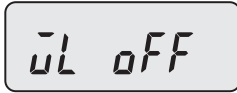
① Press the MODE key until the display shows "WL OFF". It means that weight limit function is deactivated.

$$\bar{u}L\ on$$

② Press the HOLD key to activate this function, the display shows "WL ON".

$$L\,000.00\,{}_{kg}$$

③ Press the SET key to set up low value, the display shows "L000.00".

$$L\,0\,10.00\,{}_{kg}$$

④ Press the HOLD(▲) or PRINT(▼) key to have number up or down. To enter next digit, press the SAMPLE key.

$$H\,000.00\,{}_{kg}$$

⑤ Press the SET key to set up high value, the display shows "H000.00".
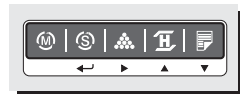
$$H\,300.00\,{}_{kg}$$

⑥ Press the HOLD(▲) or PRINT(▼) key to have number up or down. To enter next digit, press the SAMPLE(▶) key.

$$\bar{u}L\ on$$

⑦ Press the SET key, the display shows "WL ON".

⑧ If you set up LOW/HIGH limit wrong, "WL ERR" will be shown on the display. Then you have to set it up again. For example) LOW=100.00kg HIGH=90.00kg → High limit is lower than Low limit.

⑨ Press the MODE key to go to weighing mode.
⑩ Suppose that the High limit of 70kg and the Low limit of 30kg are set up. In this condition, OK lamp is lighted on if the weight is 40kg, HI lamp is lighted on if the weight is 80kg and if the weight is 20kg, LO lamp is lighted on. It beeps as fixed on User Setup Mode.

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$$HO\ 70.00\ \text{kg}$$

$$LO\ 30.00\ \text{kg}$$

○   40.00 kg ᴼᴷ

○   80.00 kg ᴴᴵ

○   20.00 kg ᴸᴼ

7-2. Counting comparison function

$$CL\ oFF$$

$$CL\ on$$

$$L\ 00000\ ^{pcs}$$
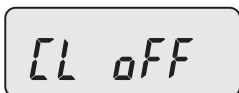
① Press the MODE key until the display shows "CL OFF". It means the counting comparison function is deactivated.

② Press the HOLD(▲) key to activate this function, the display shows "CL ON".

③ Press the SET key, the display shows "L00000".
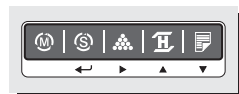
$$L\ 00\ 100\ ^{pcs}$$

$$H00000\ ^{pcs}$$

$$HO\ 1000\ ^{pcs}$$

④ Press the HOLD(▲) or PRINT(▼) key to have number up or down. To enter next digit, press the SAMPLE(▶) key.

⑤ Press the SET key, the display shows "H00000".

⑥ Press the HOLD(▲) or PRINT(▼) key to have number up or down. To enter next digit, press the SAMPLE(▶) key.

```
[L on
```

⑦ Press the SET key, the
display shows "CL ON".

⑧ If you set up LOW/HIGH limit wrong, "CL Err" will be shown on the display. Then you have to set it up again. For example) LOW=00100, HIGH=00090 or LOW=00100, HIGH=00100

⑨ Press the MODE key to go to counting mode.

⑩ Suppose that the High limit of 200 and the Low limit of 80 are set up. In this condition, OK lamp is lighted on if the weight is 120, HI lamp is lighted on if the weight is 220 and if the weight is 60, LO lamp is lighted on. It beeps as fixed on User Setup Mode.
(Refer to Setup Mode Table on page 17)

```
H00200  pcs        L00080  pcs
```

```
○        120  pcs        ○        220  pcs        ○        60  pcs
```
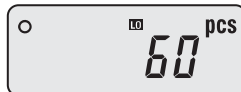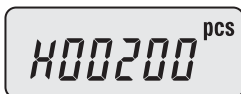
8. Print Out

8-1. Manual Print

* DBI (LCD) / DDI

■ You can print out data every time pressing the PRINT key. You can setup print function depends on your need. Refer to Setup Mode Table on page 30.

Sample format(DEP-50):

-Weighing Function-	-Counting Function-
`======= WEIGHT =======` **WELCOME TO CAS** **DATE . 07/30/2007** **TIME. 17:35:58** **Weight : 0.000 kg**	`======= COUNT =======` **WELCOME TO CAS** **DATE. 07/30/2007** **TIME. 17:35:58** **Weight : 40.200 kg** **Quantity : 50 pcs**
┌─────────────────────┐ **- WEIGHT LIMIT SET VALUE -** **Limit(H): 40.000 kg** **Limit(L): 30.000 kg** └─────────────────────┘	┌─────────────────────┐ **- COUNT LIMIT SET VALUE -** **Limit(H): 2000 pcs** **Limit(L): 1000 pcs** └─────────────────────┘
When 'the weight comparison function' is set.	**When 'the counting comparison function' is set.**

-Cumulative Weight Sum Function-
(DEP only)

```
======= WEIGHT =======
  WELCOME TO CAS[DB-2]          →Label Caption
  DATE . 07/30/2007             →Date
  TIME.  17:35:58               →Time

  Weight :       40.180 kg
  Weight :       40.200 kg
  Weight :       40.200 kg
  Weight :       40.200 kg
  Weight :       40.200 kg
  Weight :       40.200 kg
  Weight :       40.200 kg
  Weight :       40.200 kg
  Weight :      - 40.200 kg      → - means that you cancel the weight right before
  Weight :       40.200 kg         this weight.
  Weight :       40.200 kg
  Weight :       40.200 kg
------------------------
  Total :       401.980 kg       →Cumulative weight sum
  Count :        10 times        →Aggregate times
```

※ Please take a reference of page 11(cumulative weight sum) for printing process details.
  Sample format(DEP-50):

Notice. 4 kinds of Print forms should downloaded to the DLP Printer to use all the features and
Function smoothly

1. Weight + tare

```
            DBII
=============================
Date:2008-09-24   16:08:08
 Net:   1234567 kg
 Tare :  1234567 kg
 Gross : 1234567 kg
```

※ In order to use the above label format, Barcode
set as OFF and weight comparison function as
OFF in SETUP MODE

2. Weight + Tare + Barcode

```
            DBII
===========================
Date:2008-09-24      16:09:19
Net:   1234567 kg
Tare  :1234567 kg     |||||||||||||||||
Gross :1234567 kg 0 000001 234565
```

※ In order to use the above label format, Barcode
set as ON and weight comparison function as
OFF in SETUP MODE

3. counting function

```
       -Counting Function-
============ COUNT ============
  2008-09-24          15:25:51
     Weight:       0.546 kg
     Quantity:        20 pcs
   ┌─────────────────────────┐
   │ – COUNT LIMIT SET VALUE –│
   │ Limit(H):      0.200 pcs │
   │ Limit(L):      0.100 pcs │
   └─────────────────────────┘
```

※ Quantity Comparison Functions should set as ON

4. Weight comparison function

```
      -Weighing Function-
========= WEIGHT =========
 2008-09-24          15:24:38
   Weight:    1234567 kg
 ┌──────────────────────────┐
 │ – WEIGHT LIMIT SET VALUE –│
 │ Limit(H):     1234567 kg  │
 │ Limit(L):     1234567 kg  │
 └──────────────────────────┘
```

※ Weight comparison functions should set as ON

※ When using DLP printer, it could not print in the percentage mode

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* DBI (LED)

-Weighing Function-

```
======= WEIGHT =======
DATE . 07/30/2007
TIME.  17:35:58


   Weight :            0.000 kg
```

-Cumulative Weight Sum Function-

```
======= WEIGHT =======
DATE . 07/30/2007                          →Label Caption
TIME.  17:35:58                            →Date/Time

 Weight :         40.180 kg
 Weight :         40.200 kg
 Weight :         40.200 kg
 Weight :         40.200 kg
 Weight :         40.200 kg
 Weight :         40.200 kg
 Weight :         40.200 kg
 Weight :         40.200 kg                 → - means that you cancel the weight right before
 Weight :       - 40.200 kg                    this weight.
 Weight :         40.200 kg
 Weight :         40.200 kg
 Weight :         40.200 kg
-------------------------                  →Cumulative weight sum (SAMPLE KEY)
 Total    :       401.980 kg                   ( After each weight sum, it use PRINT KEY.)
 Count :             10 times              →Aggregate times
```

8-2. Auto Print

① To use auto print function, you have to set printer menu to "Pr AUt" in setup mode.
Refer to Setup Mode Table on page 30.

② If the weight is stable, it is printed out automatically.
 And You can print out data every time pressing the PRINT key.

8-3. Stream Print   *** DBI (LCD)/DDI**

① To use auto print function, you have to set printer menu to "Pr Str" in setup mode.
Refer to Setup Mode Table on page 30.

② If the weight is stable, it is printed out continuously

9. Battery Charge

* DBI (LCD) / DDI
■ Warning massage is shown when the battery voltage is very low. (▭▰)

* DBI (LED)
■ Warning massage is shown when the battery voltage is very low. (○ ○ ○ ○ ● ○ STABLE >0< NET SUM LOW POWER)

■ At this time, charge the battery. (a charging battery only)

■ The display will show a red lamp and the battery will begin a fast charge
  automatically.

- Use only the ac adapter which comes with the scale. Other AC adapter may
  cause damege.

10. Unit conversion (Kg, lb, oz, g) _* DBI (LCD) / DDI

U ⊢G pcs	U Lb pcs	CHAnGE pcs
ⓂⓈ▲🔁📑	ⓂⓈ▲🔁📑	ⓂⓈ▲🔁📑
① Press 5 on MODE key at weighing mode. The display shows "U kg". (or your last unit)	② Use "HOLD key" or "PRINT key" you can set which unit you want to use.Kg, lb, oz.	③ Press "SET key" and "CHAnGE" will display. ④ Press the "MODE" key to go to the weighing mode.

※ Tare, Unstable, when the display weight is not   when change is not working.

   Leave the platter empty, and weighing is at Zero and stable, the scale should work.

SETUP MODE

1. How to Go to Setup Mode

Make sure that power is OFF. While pressing the PRINT key, press the POWER key. The display shows "U SEt". You can select each menu by pressing the MODE key and change the setting by pressing the HOLD or PRINT key. If you press SET key, you will save current setting and finish this mode. To finish this mode without saving, press the ZERO key.

2. Setup Mode Table

MENU	DISPLAY		DESCRIPTIONS
Buzzer	*"b on "*		You can hear buzzer.
	" b oFF "		You cannot hear buzzer.
Printer	"Pr oFF"		Do not use printer.
	"Pr DLP"		DLP50 printer interface. (Label)
	"Pr DEP"		DEP50 printer interface. (Ticket)
Print method	***DBI (LCD) *DDI**	"Pr key"	Manual print. (DLP, DEP)
		"Pr AUt"	Auto print when the scale is stable. (DLP, DEP)
		"Pr Str"	Ptint continually when the scale is stable. (DEP)
	DBI (LED)	**"P kEy"**	Manual print.
		"P AUt"	Auto print when the scale is stable.
		"P Str"	Stream print when the scale is stable.
Linefeed (DEPonly)	***DBI (LCD) *DDI**	LF1~LF9	Linefeed
	DBI (LED)	**"LF 1"**	1 line feed
		"LF 9"	9 line feed
Barcode (DLP only)	"BC on/off"		Print out barcode on/off.
Baud Rate	*"br 48"*		4,800 bps _*** DBI (LCD) / DDI**
	"br96 "		9,600 bps
	" br 192 "		19,200 bps
	" br 384 "		38,400 bps
Backlight ***DBI (LCD) *DDI**	" bL on "		Use back-light.
	" bL 10 "		Back-light is on 10 seconds.
	" bL 30 "		Back-light is on 30 seconds.
	" bL oFF "		Do not use back-light.
Brightness ***DBI (LCD) *DDI**	*" 1 ~7 "*		You can set backlight brightness. (Default : 3)

Auto Power Off	*" AP oFF "*	Do not use Auto Power Off function.
	" AP 10 "	Power turns to be off automatically when the scale is not in operation over for 10 minutes.
	" AP 30 "	Power turns to be off automatically when the scale is not in operation over for 30 minutes.
	" AP 60 "	Power turns to be off automatically when the scale is not in operation over for 60 minutes.
Weight Limit ***DBI (LCD)** ***DDI**	*" WL M0 "*	HIGH Limit ≥ Weight ≥ LOW Limit - You will hear buzzer.
	" WL M1 "	HIGH Limit ≤ Weight, Weight ≤ LOW Limit - You will hear buzzer.
	" WL M2 "	Weight ≤ LOW Limit - You will hear buzzer.
	" WL M3 "	HIGH Limit ≤ Weight - You will hear buzzer.
Count Limit ***DBI (LCD)** ***DDI**	*" CL M0 "*	HIGH Limit ≥ Counting result ≥ LOW Limit - You will hear buzzer.
	" CL M1 "	HIGH Limit ≤ Counting result, Counting result ≤ LOW Limit - You will hear buzzer.
	" CL M2 "	Counting result ≤ LOW Limit - You will hear buzzer.
	" CL M3 "	HIGH Limit ≤ Counting result - You will hear buzzer.
Date ***DBI(LCD)** ***DDI**	*" dy on "*	Print out date/day.
	" dy oFF "	Do not print out date/day.
Time ***DBI (LCD)** ***DDI**	*" ti on "*	Print out time.
	" ti oFF "	Do not print out time.
Label	" LA off "	Do not print out label caption.
	" LA on "	Print out label caption.
Suspend Mode ***DBI (LED)**	"SUS00"	Do not use Sleep Mode.
	"SUS20"	Suspend mode is activated after 20 seconds.
	"SUS40"	Suspend mode is activated after 40 seconds.
	" SUS60 "	Suspend mode is activated after 60 seconds.
Default	*" dF no "*	Default setting is released.
	" dF YES "	Everything is setup in default.

※ Italic Bold : Default Setting

※Select the DEP printer in the Set up mode, LINE Feed Features are enable to use and if DLP printer is selected then Barcode features are enable to use. However, both Line Feed and Barcode features could not use at the same time.

3. TIME Setup Mode _* DBI (LED)

While pressing the ZERO key, press the POWER key.
The Next Display is " tiME".

(1) Year Setting Mode
 "tiME" −> **SET Key** −> "YAr00" −> Change the setting by pressing the HOLD or PRINT key.
 If you press SET key, you will save current setting. Next Mode is Month Setting Mode.

(2) Month Setting Mode
 "MtH00" −> Change the setting by pressing the HOLD or PRINT key.
 If you press SET key, you will save current setting. Next Mode is Day Setting Mode.

(3) Day Setting Mode
 "dAy00" −> Change the setting by pressing the HOLD or PRINT key.
 If you press SET key, you will save current setting. Next Mode is Hour Setting Mode.

(4) Hour Setting Mode
 "Hor00" −> Change the setting by pressing the HOLD or PRINT key.
 If you press SET key, you will save current setting. Next Mode is Minute Setting Mode.

(5) Minute Setting Mode
 "Min00" −> Change the setting by pressing the HOLD or PRINT key.
 If you press SET key, you will save current setting. Next Mode is Second Setting Mode.
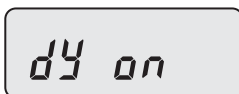
(6) Second Setting Mode
 "SEC00" −> Change the setting by pressing the HOLD or PRINT key.
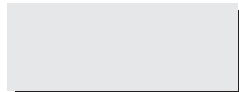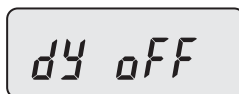 If you press SET key, you will save current setting and finish this mode.

4. How to Enter Date _* DBI (LCD) / DDI

```
dY on
```

① Press the MODE key until the display shows "dy ON". It means that date is printed out.

```
dY on
```

② If you do not want to print out date, press the HOLD(▲) key.

```
dY oFF
```

```
00,00,00
```

③ Press the SAMPLE(▶) key, the display shows "00,00,00".

```
02,04,01
```

④ Press the HOLD(▲) or PRINT(▼) key to have number up or down. To enter next digit, press the SAMPLE(▶) key.

```
dYSAuE
```

⑤ Press the SET key to save. "dysave" is shown on the display and then the display shows a day of the week.

```
ñon
```

⑥ You can change the day by pressing the HOLD(▲) or PRINT(▼) key. If you set up a day of the week wrong, "Wk err" is shown on the display.

```
utSAuE
```

⑦ Press the SET key to save. "Wksave" is shown on the display.

```
YYññdd
```

⑧ You can change the date by pressing the HOLD(▲) or PRINT(▼) key.

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$$dt\,5Au\,E$$

⑨ Press the SET key to save. "dtsave" is shown on the display.

⑩ If you do not want to save, press the ZERO key.

5. How to Enter Time _* DBI (LCD) / DDI

$$t\,\iota\,on$$

$$t\,\iota\,on$$

$$t\,\iota\,oFF$$

① Press the MODE key until the display shows "ti ON". It means that time is printed out.

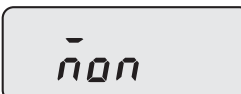② If you do not want to print out time, press the HOLD(▲) key.

$$00,00,00$$

$$1\,1,19,54$$

$$t\,\iota\,5Au\,E$$

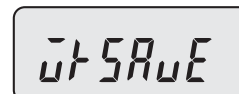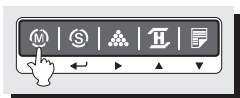③ Press the SAMPLE(▶) key to set up time, "00,00,00" is shown on the display.

④ Press the HOLD(▲) or PRINT(▼) key to have number up or down. To enter next digit, press the SAMPLE(▶) key.
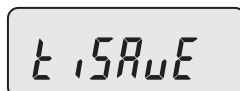
⑤ Press the SET key to save. "tisave" is shown on the display.
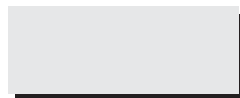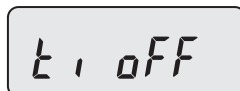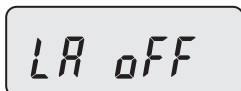
⑥ If you do not want to save time, press the ZERO key.

6 . How to Enter Label Caption
/ aximum 24characters _* **DBI (LED)** /

$$LA\ oFF$$

① Press the MODE key until
the display shows "LA off".
It means that label caption
is not printed out.

$$LA\ on$$

② To print out label caption, press the HOLD (▲) key.
The display shows "LA on".

$$LA\ oFF$$

$$uELCon$$
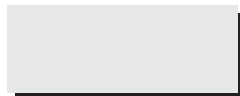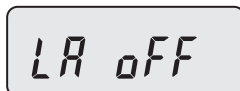
③ Press the SAMPLE(▶) key,
"WELCOM" is shown on the
display in default.

$$CAS$$

④ You can program label caption by pressing HOLD(▲) or
PRINT(▼) key. To enter next digit or previous digit, press
the MODE or SAMPLE(▶) key.

⑤ You can enter alphabet or special character by pressing the TARE key. When you enter special
character, STABLE lamp is on. When you enter alphabet, STABLE lamp is off.

$$LASAuE$$
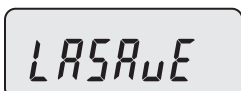
⑥ Press the SET key to save. "LA save" is shown on the display.

⑦ If you do not want to save, press the ZERO key.

ERROR MESSAGES

Error Message on Display	Description	Solution
"Err 0"	The "Err 0" occurs when scale is not stable.	Remove unstable facts.
"Err 1"	The "Err 1" occurs when a current zero point has shifted from the last span calibration.	Please call your CAS dealer.
"Err 3"	The "Err 3" is an overload error.	Please remove the weight.
"Err 9	The "Err 9" is no weight error. When scale is in counting mode, you must load the weight. If you have no weight on your scale, you can see this error message.	Please load the weight on your tray.
"Err 14"	The "Err 14" means calibration range is not correct.	Please call your CAS dealer.

SERIAL INTERFACE

Scale   PC

GND 2 Rx ————— Tx 2
   3 Tx   Rx 3
                  GND 5

D-Sub
Connector(9 pin)   D-Sub
Connector(9 pin)

SPECIFICATIONS _* DBI (LCD) / DDI

Load Cell Excitation Voltage	DC 5V	
Zero Adjustment Range	0.05mV ~ 5mV	
Input Sensitivity	2uV/D	
A/D Internal Resolution	1/60000	
A/D External Resolution	1/3000	
Division	X1, x2, x5	
A/D Conversion Speed	8 Hz	
Display Below Zero	Minus	
DISPLAY	LCD 6 digits 10mm(W) X 22mm(H)	
DISPLAY LAMP	STABLE, ZERO, HOLD, NET, HI/OK/LO, lb, oz %, PCS, SUM, kg, Low Battery	
INTERFACE	RS-232C(Printer)	
POWER SOURCE	**DBI** DC 12V 1.25A Adaptor 6V 3.3Ah Pb Battery, Dry Battery	**DDI** DC 12V 1.25A Adaptor 6V 4Ah Pb Battery, Dry Battery AA Size X 4
TEMPERATURE RANGE	-10°C ~ +40°C	
PRODUCT SIZE (WDH)mm	**DBI** 220(W)X174(D)X240(H)	**DDI** 220(W)X159(D)X107(H)
PRODUCT WEIGHT	1.5kg	
MINIMUM VOLTAGE LEVEL OF THE BATTERY	About 5.6V	
CONTINUOUS USING TIME	**DBI** About 100 Hours (Back light Off) About 25 Hours (Back Light On / Brig7 / 100mA) *The load Cell Specification can have a effect on using time.	**DDI** About 150 Hours (Back light Off / 20mA) About 14 Hours (Back Light On / Brig7 / 250mA) *The load Cell Specification can have a effect on using time.
RECHARGING	About 12 Hours	

▶ Notice: Specifications are subject to change for improvement without notice.

SPECIFICATIONS _* DBI (LED)

Load Cell Excitation Voltage	DC 5V
Zero Adjustment Range	0.05mV ~ 5mV
Input Sensitivity	2uV/D
A/D Internal Resolution	1/60000
A/D External Resolution	1/3000
Division	X1, x2, x5
A/D Conversion Speed	8 Hz
Display Below Zero	Minus
DISPLAY	LED 5 digits
DISPLAY LED LAMP	STABLE, ZERO, NET, SUM,LOW, POWER LED
INTERFACE	RS-232C(Printer)
POWER SOURCE	DC 12V 1.25A Adaptor 6V 3.6AH Pb Battery
TEMPERATURE RANGE	-10°C ~ +40°C
MINIMUM VOLTAGE LEVEL OF THE BATTERY	About 5.6V
WEIGHT	About 1.5kg kg
Rechargeable Time	12 Hour
Consumption Current	About 50 mA
Battery Consumption Time	50 Hour
PRODUCT SIZE (W D H)mm	220 x 177 x 87

▶ Notice: Specifications are subject to change for improvement without notice.

ASSEMBLING THE DISPLAY OF DB-II WALL TYPE

1. Attach head bracket to the display and fasten it with screws provided asshown in Figure. 1.

2. Connect both of grand wire and load cell wire to load cell connector at thebackside of display as shown in Figure. 2.

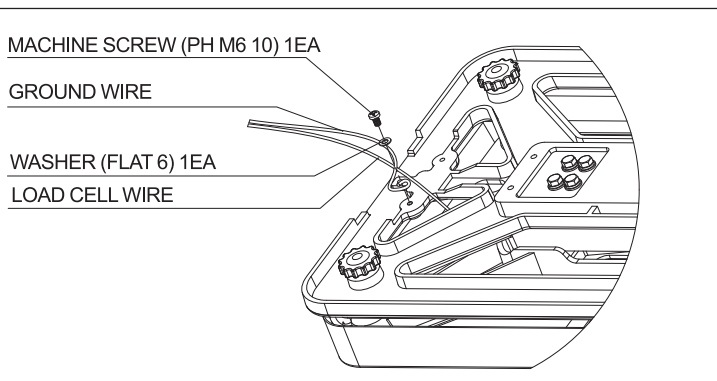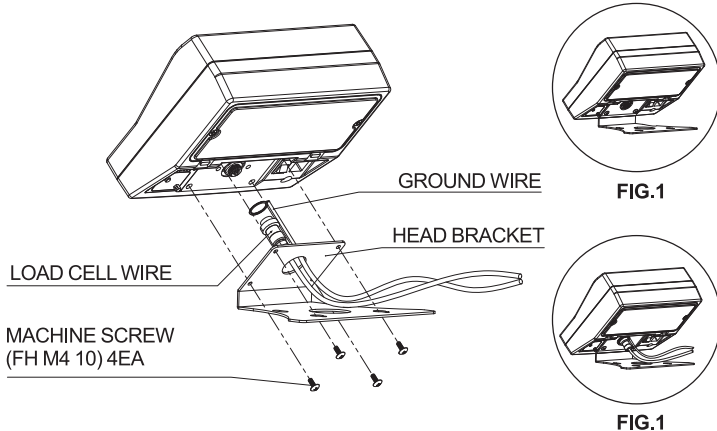3. Fasten grand wire to the bottom of platform body with bolt as shown in Figure. 3.

GROUND WIRE

FIG.1

HEAD BRACKET

LOAD CELL WIRE

MACHINE SCREW
(FH M4 10) 4EA

FIG.1

MACHINE SCREW (PH M6 10) 1EA

GROUND WIRE

WASHER (FLAT 6) 1EA

LOAD CELL WIRE

FIG.1

DBI / DDI

Weighing indicator